AD-A262 383

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖

BOOZ, ALLEN & HAMILTON, Inc.
8283 Greensboro Drive
McLean, VA 22102

200000920333   Final Report

DTIC
S ELECTE
MAR 1 7 1993
C
D

Vanity-Motivated Overspending: Personnel Screening for Positions of Trust

by

Scott B. Morris and Michael A. McDaniel
University of Akron

G. Jeffrey Worst
Booz-Allen & Hamilton, Inc.

Howard Timm
Defense Personnel Security Research Center

January 1993

Prepared for:

Defense Personnel Security Research Center

Under the

Office of Naval Research
N00014-91-C-0280

93-05469
‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖

93 3 16 090

REPORT DOCUMENTATION PAGE

Form Approved
OMB No 0704-0188

1a REPORT SECURITY CLASSIFICATION UNCLASSIFIED	1b RESTRICTIVE MARKINGS

2a SECURITY CLASSIFICATION AUTHORITY	3 DISTRIBUTION/AVAILABILITY OF REPORT
2b DECLASSIFICATION/DOWNGRADING SCHEDULE	

4 PERFORMING ORGANIZATION REPORT NUMBER(S)	5 MONITORING ORGANIZATION REPORT NUMBER(S)

6a. NAME OF PERFORMING ORGANIZATION Booz, Allen & Hamilton, Inc.	6b OFFICE SYMBOL (If applicable)	7a NAME OF MONITORING ORGANIZATION

6c. ADDRESS (City, State, and ZIP Code) 8283 Greensboro Drive McLean, VA 22102	7b ADDRESS (City, State, and ZIP Code)

8a. NAME OF FUNDING/SPONSORING ORGANIZATION Defense Personnel Security Research Center	8b OFFICE SYMBOL (If applicable) PERSEREC	9 PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER

8c. ADDRESS (City, State, and ZIP Code) 99 Pacific Street, Suite E-455 Monterey, CA 93940	10 SOURCE OF FUNDING NUMBERS

PROGRAM ELEMENT NO	PROJECT NO	TASK NO	WORK UNIT ACCESSION NO

11 TITLE (Include Security Classification)
Vanity-Motivated Overspending: Personnel Screening for Positions of Trust

12 PERSONAL AUTHOR(S)
Morris, Scott B.; McDaniel, Michael A.; Worst, G. Jeffrey; Timm, Howard

13a TYPE OF REPORT	13b TIME COVERED FROM _____ TO _____	14 DATE OF REPORT (Year, Month, Day)	15 PAGE COUNT

16 SUPPLEMENTARY NOTATION

17 COSATI CODES			18 SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
FIELD	GROUP	SUB-GROUP	Credit reports; credit history; financial responsibility; pre-employment screening; personnel security; financial difficulties; vanity; spending

19 ABSTRACT (Continue on reverse if necessary and identify by block number)

Background data concerning financial responsibility are frequently used in screening applicants for positions of trust. Many applicants for such positions do not have any credit history because of their young age. Assessment of financial responsibility for young adults who lack credit histories is a major problem for employers. The study investigated the factor structure and predictive validity of a measure of vanity-motivated overspending based on a sample of 2,030 individuals. A confirmatory factor analysis supported the relationship between vanity and poor spending habits. The money management scale yielded a validity of .26. A regression-weighted composite of the nine scales yielded a validity of .32.

20. DISTRIBUTION/AVAILABILITY OF ABSTRACT ☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT. ☐ DTIC USERS	21 ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED
22a. NAME OF RESPONSIBLE INDIVIDUAL Roger P. Denk, Ph.D.	22b TELEPHONE (Include Area Code) (408) 656-2448 — 22c OFFICE SYMBOL PERSEREC

DD Form 1473, JUN 86   *Previous editions are obsolete*   SECURITY CLASSIFICATION OF THIS PAGE

S/N 0102-LF-014-6603

UNCLASSOFOED

Vanity-Motivated Overspending:

Personnel Screening for Positions of Trust

Abstract

Background data concerning financial responsibility is frequently used in

screening applicants for positions of trust in which integrity is particularly

desirable. Many applicants for positions of trust do not have any credit history

primarily due to their age. The assessment of financial responsibility for young

adults who lack credit histories is a major problem for employers. This paper

investigated the factor structure and predictive validity of a measure of vanity-

motivated overspending based on a sample of 2,030 individuals. A confirmatory

factor analysis supported the relationship between vanity and poor spending

habits. The money management scale yielded a validity of .26. A regression-

weighted composite of the nine scales yielded a validity of .32.

Accesion For		
NTIS CRA&I	☑	
DTIC TAB	☐	
Unannounced	☐	
Justification		
By Per Form 50		
Distribution /		
Availability Codes		
Dist	Avail and / or Special	
A-1		

Using background data as a predictor of human performance has a long history in psychology (Owens, 1976). Use of background data is based on the premise that an individual's past behavior and experiences are useful predictors of future behavior.

Background data concerning financial responsibility is frequently used in screening applicants for positions of trust in which integrity is particularly desirable. Such occupations include law enforcement, private security industry, and the nuclear power industry as well as military and civilian positions that require government issued security clearances (McDaniel, 1989). The financial responsibility of potential employees is also of concern for occupations where the potential for sizable monetary fraud exists, such as banking, financial management, and accounting.

Summaries of an individual's financial responsibility or credit worthiness are available from credit bureaus. Such bureaus maintain files on most individuals with any type of credit history and sell reports of this information. These reports summarize information on a consumer's credit worthiness, credit standing, and credit capacity. Some credit bureaus will provide a summary score that is predictive of severe credit problems such as bankruptcy (TRW Credit Data Services, 1989).

Despite the frequent use of financial responsibility data in employee screening (McDaniel, 1989), such data is typically evaluated in a subjective manner and its criterion-related validity has received little attention. Few personnel psychologists have conducted research on the assessment of financial responsibility and its relation to job performance. (Muchinsky, 1975a, 1975b;

Worst, Duckworth, & McDaniel, 1991). Other literatures have operationalized

financial responsibility as credit risk (Buel & Lewis, 1969; Coakley, 1971). This

nonpsychological literature has stressed the three C's of credit: character, capacity,

and capital.

Assessing Financial Responsibility For Those Who Lack Credit Histories

For a credit bureau to have a record of an individual's credit information,

the individual needs to have established a credit history typically by obtaining a

bank loan or a credit card. Many applicants for positions of trust have not

established any credit history primarily due to their age. Young adults who enter

the military service are typically 18 years old and have not established any credit

history. Likewise, applicants for public safety jobs, such as police officer, typically

apply when they are in their early twenties and many lack a credit history. The

assessment of financial responsibility for such young adults who lack credit

histories is a major problem for employers.

The assessment of the financial responsibility of young adults is a

particular problem for the military services who constitute the largest single

employer of young adults. Most entrants into the military service require a

security clearance to perform their duties. Government issued security clearances

are necessary for individuals who perform work that involves information or

technology that is judged critical for the national defense. Such information and

technology may concern nuclear or other weapon systems as well as military

strategies or procedures. Reviews of espionage-related security breaches reveal

that the primary motivation for an individual releasing classified information is a

real or perceived need for money (Jepson, 1988; U.S. Congress - House Select

Committee on Intelligence, 1987; Washington, 1991; Wood & Wiskoff, 1992).

A review of security violations and credit problems among young service

personnel revealed that many credit problems develop in efforts to satisfy vanity

needs (Washington, 1991; Wood & Wiskoff, 1992). Young service personnel

often overspend to obtain fashionable automobiles, clothes, stereos, and other

consumer goods that are heavily marketed to young adults.

The Development of a Vanity-Motivated Overspending Measure

Worst, Duckworth, and McDaniel (1991) developed a measure designed to

assess tendencies toward vanity-motivated overspending. The literature review

underlying the instrument design and the development of the instrument is

summarized elsewhere (Worst, Duckworth, & McDaniel, 1991), but will briefly be

reviewed here. The researchers located no literature that specifically addressed

vanity-motivated overspending. However, related literature was found in three

areas: narcissism, compulsive overspending, and correlates of saving behavior.

The literature review suggested several topic areas which served to guide item

writing. These topic areas were: consumer attitudes, self-reports of vanity, the

importance of personal appearance, parents' attitudes toward money management

and spending, friends' vanity-motivated spending, desires to work for high-prestige

organizations and have a high-prestige occupation, educational success, and

money and credit management. The Rotter locus of control scale (Rotter, 1966)

was also included in the item pool. In a statistical analyses based on 186 subjects,

Worst, Duckworth and McDaniel (1991) derived nine scales:

- <u>Vanity of friends</u>: Vanity/status behaviors of the respondents' friends

- <u>Vanity of parents</u>: Vanity/status behaviors of the respondents' parents/guardians

- <u>Vanity via fashion and appearance</u>: Vanity-related behaviors concerning shopping, fashion, and physical appearance

- <u>Vanity via social ascendancy</u>: Vanity-related behaviors concerning meeting and socializing with important and prestigious people

- <u>Money management</u>: Savings habits and promptness of payments to creditors

- <u>School performance</u>: Performance in school; learning new things quickly

- <u>Thrifty shopping</u>: Extent to which the respondent seeks out good buys, shops in warehouses and outlets

- <u>Compulsive and irresponsible spending</u>: Buy goods that are not needed; has urges to shop

- <u>Locus of control</u>. Measures the respondents position on the Rotter (1966) internal-external continuum.

The locus of control scale consisted of the original Rotter (1966) items. Each item requires the subjects to pick the one statement of a pair that they believe to be most true. The remaining items were developed specifically for this vanity measure. These items are in a multiple choice format with four or five response options. The items are structured in three primary formats: frequency of

behavior, agreement or disagreement, and level of importance. Items in the first

format assess frequency of behavior, for example:

> How often do you attend social functions solely for the opportunity
> to meet influential people?
> a.   Very often
> b.   Somewhat often
> c   Not very often
> d.   Never

Items in the second format assess level of agreement with a statement, for

example:

> I spend a lot of time working on budgets or planning my expenses.
> a.   Strongly agree
> b.   Agree
> c.   Undecided
> d.   Disagree
> e.   Strongly disagree

Items in the importance format solicit the importance of various behaviors, for

example:

> How important to you is buying designer or name-brand goods?
> a.   Very important
> b.   Somewhat important
> c.   Not very important
> d.   Not at all important

Purpose of the present study

Although the scales derived by Worst, et al. (1991) were conceptually

compelling and their factor analysis generally supported the structure

hypothesized by the scale developers, their data analysis was based on only 186

subjects. Thus, their sample size was not fully adequate for a definitive

examination of the factor structure of the instrument. The Worst et al. study also

provided no information on the value of the instrument in predicting financial responsibility as measured by actual spending and credit-related behaviors.

The purpose of the present study is to build upon the Worst et al. (1991) research by clarifying the factor structure of the instrument using a much larger sample. In addition, this study will examine the extent to which the measure predicts subsequent financial responsibility over a short time interval using a sample for which the measure was designed.

Method

Subjects

The measure of vanity-motivated overspending was administered to 2,030 military Air Force recruits during their basic training. This sample is ideal for this study because it is composed of individuals for whom the instrument was designed: young adults, with no credit history, who should be assessed for financial responsibility given that they seek occupations requiring a national security clearance. A number of respondents were dropped due to missing values or because their responses indicated random or inattentive responding to the items. The confirmatory factor analysis was performed on 1,745 respondents. The final sample consisted of 1,390 men and 354 women. The sex of one subject could not be determined. The majority of the respondents were below the age of 25 (94.2%), and only 3 respondents were age 35 or older.

Criteria

Six months after collection of the vanity-motivated overspending measure, credit reports were sought for all members of the sample. Whereas their military

occupation was the first full-time paying job for most of these individuals, the first six months of military service provided sufficient opportunity for many of these individuals to establish a preliminary credit history. The primary criterion was a "gold score" which is a statistically-derived composite of credit history (TRW Credit Data Services, 1989). The gold score is a composite of 13 credit variables including items related to debt burden (e.g., how much debt does the person carry?), payment delinquency (e.g., non-payment and late payment of due financial obligations), and seeking an inordinate amount of credit (e.g., applying for an unusually large number of credit cards). The developer of the gold score (TRW Credit Data Services, 1989) presents validation evidence on a sample of one million individuals documenting the value of the gold score as a measure of financial responsibility. Criterion-related validity analyses were possible for the 989 individuals with a usable credit history.

Analyses

Confirmatory Factor Analysis. A confirmatory factor analysis was performed using the CALIS procedure in SAS (SAS Institute, 1990). The analysis was performed on the covariance matrix using maximum likelihood estimation (the correlation matrix is presented in the Appendix A). Model comparison was based on multiple indices of model fit: the chi square goodness of fit test, the goodness of fit index (GFI), the adjusted goodness of fit index (AGFI), the root mean square residual (RMSR), and Bentler-Bonnett's (1980) normed fit index (NFI), nonnormed fit index (NNFI), and comparative fit index (CFI).

Several models were tested to evaluate the structure of the data. Model 1 included only the 9 first-order factors (Vanity of Friends, Vanity of Parents,

Vanity via Fashion and Appearance, Vanity via Social Ascendancy, Compulsive

and Irresponsible Spending, Money Management, Thrifty Spending, School

Performance, and Locus of Control), allowing correlation between these factors.

In order to set the scale for the model, the variance of each factor was set to one.

This is the least restrictive model tested. It assumes only that each item loads on

the specified factor and on no other factor.

Model 2 is the hypothesized model suggested by an exploratory analysis of

a different sample (Worst, et al., 1991). It includes two second-order factors

(Vanity and Spending Habits) which account for the correlations between the

first-order factors (see Figure 1). Two of the first order factors (School

Performance, Locus of Control) were found in an exploratory factor analysis of

the scale (Worst et al., 1991) to be related to the Spending Habits scale.

However, because they do not represent Spending Habits, they were not used to

define that factor. They were retained in the analysis as first order factors. The

correlation between the second order factors was free to vary. For each of the

first-order factors, one of the factor loadings (i.e., the paths leading to the

measured variables) was fixed at one in order to identify the model. In addition,

the variance of the two second-order factors was set to one.

The hypothesized model was compared to three alternative models.

Model 3 was identical to Model 2, except that the correlation between the two

second-order factors was set to zero. To test whether two second order factors

were necessary, Model 2 was compared to a model with only one second order

factor (Model 4). Finally, Model 5 included only uncorrelated first-order factors.

This m   was included to test whether the data could be modeled equally well without any second-order factor structure.

Criterion-validity analysis. The 989 respondents with a usable credit history comprised the sample for the criterion-related validity analyses. The criterion consisted of the gold score. Correlations between each of the nine scales and the criterion were calculated. A multiple regression analysis using the nine scales scores as the independent variables was also conducted.

Results

Confirmatory Factor Analysis

The initial test of Model 1 indicated that the first order factor structure had a poor fit to the data (chi-square=10196.80, df=3132, p<.001, GFI=.86, AGFI=.85, RMSR=.03, NFI=.68, NNFI=.7413). Since the first order factors were misspecified, evaluation of the second-order factor structure based on these factors would be meaningless. Before continuing with the analysis of the models, an attempt was made to improve the first order solution.

Modification was based on examination of the factor loadings and modification indices, as well as a conceptual reassessment of the scale items. The pattern of factor loadings on the Locus of Control Scale was not clean. However, since a pre-existing measure was used for this construct, specific items could not be dropped without potentially changing the meaning of the construct. Therefore, the Locus of Control items were summed to form a scale score (alpha=.72) which was entered as a single score into the confirmatory factor analysis. Several poorly fitting items identified by the Lagrange Multiplier (LM) and parameter change

(PC) indices were also conceptually located on the wrong scale. Based on the modification indices and the conceptual evaluation, one item ("How often do you feel an internal urge to go shopping?") was moved from the Vanity of Friends scale (Wald=224.39) to the Compulsive Spending scale (LM=167.16, PC=.52). The conceptual analysis indicated that another item ("I manage my spending according to a general plan.") should be located on the Thrifty Shopping scale (LM=169.68, PC=1.65) rather than the Compulsive Spending scale (Wald=343.58); however, since this item was strongly related to both scales, its meaning was ambiguous, and it was dropped from the analysis. Two other items were located on a conceptually questionable scale, but did not show a strong relationship to the more appropriate scale. One item ("When you were growing up, how often did your parents/guardians go to a warehouse or outlet store to purchase products?") showed a low loading on the Thrifty Shopping scale (.28) and logically should have been on the Vanity of Parents scale (LM=2.58, PC=-.07). Another item ("To what extent do you feel that shopping for clothes is a chore?") showed a low loading of the Vanity of Friends scale (.23) and logically should have loaded on the Compulsive Spending scale (LM=6.63, PC=-.15). Both items were dropped from the analysis. Two items were dropped because they did not load strongly on the expected scale. One item ("When you decide to purchase and expensive product (over $200), how likely is it that you will buy the product that day?") had a low loading (.26) on the Compulsive Spending factor (Wald = 96.21). Another item ("I use more than 20 percent of my after-tax monthly salary to pay monthly installment debts such as car payments and credit card bills?") had a low loading (.15) on the Money Management factor (Wald =

25.45). Two additional items were dropped because their meaning was unclear.

One item ("I frequently live beyond my means.") was strongly related to all but

the locus of control factor (all LM > 78.27). Another item ("How vain are you?")

logically could have loaded on either the Vanity through Fashion or the Vanity

through Social Ascendancy scale. However, its strongest relationship was to item:

"How vain are most of you friends?" (LM 335.90, PC=-.39). This relationship

may represent a social desirability influence on these items. However, since the

later item loaded both logically and empirically on the Vanity of Friends scale

(loading=.54), it was retained. The former item ("How vain are you?") was

dropped.

Since the first order factor structure has been altered to fit the data, the

following results may to some extent be unique to this data set. However, the

changes were based on theoretical considerations, and the second order factor

structure is theory driven, thus maintaining the confirmatory nature of the

analysis. The large sample also mitigates against sample specific results due to

random sampling error.

After removing the items identified in the modification analysis, the fit of

the first order factor model (Model 1) was considerably better (See Table 1).

Although the chi square is quite large, this statistic is sensitive to large samples.

Therefore, the other fit indices may provide a better indication of the extent to

which the model fits the data. The GFI and AGFI indices indicate that the

model fits reasonable well, although they fall slightly below the .90 rule of thumb

for a good fitting model. However, the fact that the NFI is below .80 suggests

further development of the scales is needed. Factor loadings for the first order

factors are given in Table 2. Correlations between the first order factors are given in Table 3.

Insert Tables 1-3 about here

The analysis generally supported the hypothesized structure for the second order factors (Model 2). Model 2, in which two second order factors underlie the correlations between the first order factors shows fit similar to that of the less restricted model (Model 1). Although the chi square difference test indicates that Model 1 has better fit ($\Delta\chi^2=221.93$, df=23, p<.0001), the other indices suggest similar fit. The first order factor loadings do not differ substantially from those of Model 1 (See Table 2). The factor loadings of the first order factors on the second order factors is consistent with the hypothesized pattern (see Figure 1).

The test of whether the two second order factors are correlated involves comparing Model 2 to Model 3, in which the correlation has been set to zero. Although Model 2 fits better according to the chi-square difference test ($\Delta\chi^2=220.03$, df=1, p<.0001), the other fit indices show little improvement by allowing the factors to correlate. However, the fact that the estimated correlation between the factors is .45 suggests that a correlation does exist.

An alternative explanation for the strong correlation between the two second order factors is that there is actually only one factor underlying the first order factors. Comparison of Model 2 to Model 4, which has only one second order factor, suggests that two factors are needed. Model 2 has a much smaller

chi square values ($\Delta\chi^2 = 376.30$, df=3, p<.0001), and slightly better fit on all the other indices.

Postulating second order factors implies that there is some correlation between the factors that can be explained by higher order factors. Constraining the model to have no correlation between first order factors (Model 5) produced a very poor fit, indicating a need for some second order factor structure.

Predictive Validity

In order to determine the relationship between the 9 factors and credit risk, scale scores were computed by summing the items loading on each factor. The nine scales incorporated those minor modification suggested by the confirmatory factor analyses. In addition to the nine individual scales, two composites were formed, one assessing vanity and the other assessing spending. Internal consistency reliability and interscale correlations are reported in Table 4.

The gold score was examined to determine the extent to which this criterion departs from normality. The gold score distribution was found to be substantially normal (skew = 0.12; kurtosis 0.05).

Multiple correlation between the 9 scale scores and credit risk indicated a moderate, but highly useful, relationship (R=.32, F=12.47, p<.001). The zero order correlations indicated that most of the prediction was due to the Money Management scale (r=-.26, p<.001). The only other significant predictor (Thrifty Shopping, r=.08, p<.01) was in the wrong direction. Individuals who indicated that they were thrifty shoppers were slightly more likely to become a credit risk. A possible explanation is that prior financial difficulties may have caused both the bad credit ratings and the need for low budget shopping.

Insert Table 4 about here

Sex differences

T-tests were computed to determine whether sex differences existed on any of the scales (see Table 5). The results indicate that men reported more Vanity via Social Ascendancy and Vanity of Parents, while women reported more Compulsive and Irresponsible Spending, and less Thrifty Shopping, and had greater credit risk.

Insert Table 5 about here

Conclusion

The results of the confirmatory factor analysis support the proposition that individuals motivated by vanity are likely to report poor spending and saving habits. However, although self-reports of money management habits were related to credit risk, there was no indication that individuals motivated by vanity were more likely to develop credit problems in the short term.

The lack of predictive ability for the vanity measures may be due to the fact that the criterion used in this study was collected within eight months after most of the sample entered the work force. The short time period may result in a credit history index that is not representative of longer term financial responsibility. Isolated incidents may have overinflated the risk score for some individuals, while others may have had insufficient opportunity to make large

purchases that would create unmanageable debt. To the extent that the time period was too short to provide a stable measure of credit risk, the measurement error of the criterion may have limited the validity of the predictor measures. Therefore, the validity of the predictor scales may improve as the credit history of the subjects matures. It is recommended that the validity of the measure be reexamined as the criterion matures.

References

Buel, W. D. & Lewis, G. L. (1969). Credit scoring and beyond. *Banking, 61*, 42-43, 100.

Coakley, W.D. (1971). Small loan credit scoring. *Industrial Banker, 16*, 12-14.

Jepson, L. (1988). *The espionage threat.* Counter Intelligence Division, Directorate for Security and Counterintelligence. Washington, DC: Defense Intelligence Agency.

Muchinsky, P. M. (1975). A comparison of three analytic techniques in predicting consumer installment credit risk: Toward understanding a construct. *Personnel Psychology, 28*, 511-524.

Muchinsky, P. M. (1975b). Consumer installment credit risk: A need for criterion refinement and validation. *Journal of Applied Psychology, 60*, 87-93.

McDaniel, M. A. (1989). Biographical constructs for predicting employee suitability. *Journal of Applied Psychology, 74*, 964-970.

Owens, W. A. (1976). Background data. In M. D. Dunnette (Ed.) *Handbook of industrial psychology* (pp 604-644). New York: Rand McNally.

Rotter, J.B. (1966). Generalized expectancies for internal versus external locus of reinforcement. *Psychological Monographs, 80.*

SAS Institute Inc. (1990). *SAS/STAT Users Guide*, Version 6, Fourth Edition, Volume 1. Cary, NC: SAS Institute Inc.

TRW Credit Data Services (1989). *TRW Gold Series: New dimensions in modeling.* Los Angeles, CA: TRW Credit Data Services.

U.S. Congress, House Select Committee on Intelligence (1987). *U.S. Counterintelligence and Security Concerns - 1986.* Washington, DC: GPO.

Washington, W. J. (1991). *An empirical analysis of financially related issues associated with military, DoD and Non-DoD employees who committed espionage.* Master's thesis. Naval Postgraduate School. Monterey, CA.

Wood, S., & Wiskoff, M. F. (1992). *Americans who spied against their country since World War II.* PERS-TR-92-005. Defense Personnel Security Research and Education Center. Monterey, CA.

Worst, G. J., Duckworth, D., McDaniel, M.A. (1991). *Development of a measure of vanity-motivated overspending.* Prepared for the Defense Personnel Security

Appendix

Means, standard deviations and correlations between variables.

	Item	mean	sd	1	2	3	4	5	6	7	8	9	10	11
1.	I wear stylish rather than comfortable clothes	2.87	0.80	-										
2.	Important to buy designer clothes	2.45	0.77	43	-									
3.	I spend more than others on hair care	3.57	0.77	25	24	-								
4.	I would join health club to improve appearance	1.96	0.86	19	18	20	-							
5.	I check my appearance often	2.52	0.69	29	29	29	20	-						
6.	I prefer to shop in malls and prestigious stores	2.97	0.85	37	44	20	15	22	-					
7.	Important to have fashionable hairstyle	2.88	0.84	42	46	30	19	26	32	-				
8.	Important to be best dressed person at parties	2.87	0.75	44	37	24	19	31	33	37	-			
9.	I blow my own horn	2.79	0.69	17	15	02	04	16	17	12	19	-		
10.	Important to be seen with important people	3.33	0.69	33	34	16	15*	22	35	32	40	28	-	
11.	Occupation of friends is important	3.68	0.57	16	14	06	02	04	24	17	18	11	31	-
12.	I frequently name-drop	3.98	0.89	23	25	13	07	18	26	24	25	24	45	24
13.	Social status of friends is important	2.99	0.82	30	27	11	11	15	33	28	31	21	44	31
14.	Important to work in prestigious organization	2.54	0.89	25	21	15	13	18	23	19	31	18	31	18
15.	I attend parties to meet important people	3.01	0.84	21	16	18	11	16	16	25	25	16	32	12
16.	Friends value social status	2.35	0.80	26	30	10	16	20	27	26	28	16	33	14
17.	Friends value designer clothes	2.31	0.79	32	40	14	14	21	31	35	29	14	25	12
18.	Friends spend a lot on personal items	2.54	0.75	13	08	02	02	09	08	11	11	08	08	02

Item	mean	sd	1	2	3	4	5	6	7	8	9	10	11
19. Friends eat in fashionable restaurants	3.16	0.74	21	15	10	08	13	25	17	26	15	30	19
20. Friends value foreign cars	2.98	0.88	17	20	10	07	12	21	18	20	08	19	13
21. Friends shop in trendy stores	2.20	0.75	51	29	14	15	22	31	24	29	14	21	06
22. Friends are vain	3.32	0.83	21	19	11	07	20	20	18	27	15	25	12
23. Parents shopped in exclusive stores	3.04	0.69	25	25	14	10	14	28	23	26	11	26	14
24. Parents valued designer clothes	3.30	0.70	23	30	18	08	17	22	30	28	11	28	16
25. Parents valued prestigious schools	3.14	0.88	15	10	09	03	07	18	15	21	11	20	12
26. Social status was important to parents	2.99	0.75	18	15	13	03	07	18	18	24	13	30	19
27. Parents dressed me in designer clothes	2.80	0.81	26	33	18	08	19	25	25	25	11	21	08
28. Parents valued new cars	3.04	0.79	20	24	13	10	13	23	20	22	08	25	14
29. Parents have prestigious jobs	2.47	0.81	10	06	05	00	08	14	12	14	06	13	11
30. I often spend money needlessly	2.85	0.62	17	16	06	01	13	17	15	14	18	16	08
31. I often buy things I don't need	2.74	0.71	24	22	10	04	14	22	22	18	14	20	11
32. I often buy things I rarely use	2.99	0.55	15	13	07	00	11	14	11	15	13	14	12
33. I buy things I don't need, when I have little money in savings	3.07	0.71	18	16	05	04	12	17	14	17	15	18	09
34. I spend more money than I should	2.70	0.65	18	16	05	01	12	18	11	16	17	19	06
35. I am strongly driven to buy things	2.79	0.64	26	30	16	08	14	28	26	22	15	21	12
36. When in a mall, I am tempted to buy things	2.54	0.76	28	33	20	13	22	32	25	27	14	19	05

	item	mean	sd	1	2	3	4	5	6	7	8	9	10	11
37.	I often feel urges to go shopping	2.96	0.68	25	24	16	10	18	25	25	26	09	19	10
38.	I usually have enough money to pay expenses*	-1.99	0.90	05	-01	-02	-02	05	03	00	06	05	03	02
39.	My savings is less than 3 months salary	2.50	1.07	-05	-02	-04	-03	-04	-08	-07	-05	-01	-04	-01
40.	My bill payments are always late	4.27	0.90	04	-01	06	-05	00	03	03	06	02	04	03
41.	I usually have money in both savings and checking*	-3.00	1.29	04	06	00	00	01	06	01	02	00	01	02
42.	I often shop at outlet stores*	-2.64	0.71	05	10	-02	-01	00	11	02	-03	-05	03	01
43.	I research prices before an expensive purchase*	-2.43	0.97	13	18	07	-02	10	15	10	07	07	08	-06
44.	I budget my expenses*	-2.68	0.98	05	10	-03	-03	04	10	00	-02	04	04	03
45.	I try to find sales*	-1.80	0.67	02	09	02	-02	01	11	-02	00	-03	02	02
46.	I shop at discount stores*	-2.78	0.79	21	32	15	09	12	27	15	13	04	13	04
47.	I was an above average student*	-2.59	0.97	00	-02	-01	02	-04	02	-05	-03	01	00	-01
48.	I learn easily*	-1.97	0.77	-01	-05	-03	-05	-05	-01	-03	-04	00	-02	04
49.	I learned more easily than most students*	-2.66	0.83	05	02	-01	-02	-01	04	03	-01	-01	01	-02
50.	I have a good education*	-2.09	0.77	04	-02	-03	00	-02	02	-01	01	03	-03	01
51.	I did well in math*	-2.34	1.08	00	-03	00	00	-02	01	02	-01	-02	-01	01
52.	Locus of Control	4.29	3.82	14	13	-02	-01	07	10	08	08	11	07	05

Item	12	13	14	15	16	17	18	19	20	21	22
12. I frequently name-drop	-										
13. Social status of friends is important	30	-									
14. Important to work in prestigious organization	20	28	-								
15. I attend parties to meet important people	35	23	19	-							
16. Friends value social status	26	41	24	22	-						
17. Friends value designer clothes	22	23	19	17	54	-					
18. Friends spend a lot on personal items	07	04	04	07	29	43	-				
19. Friends eat in fashionable restaurants	23	29	25	16	34	32	23	-			
20. Friends value foreign cars	13	16	21	11	34	40	25	27	-		
21. Friends shop in trendy stores	16	23	16	15	38	46	36	27	24	-	
22. Friends are vain	22	25	18	15	36	34	29	31	26	33	-
23. Parents shopped in exclusive stores	21	28	19	22	20	20	08	17	12	24	20
24. Parents valued designer clothes	23	25	18	19	18	19	04	13	13	16	17
25. Parents valued prestigious schools	16	22	28	19	15	12	05	17	12	16	20
26. Social status was important to parents	26	41	27	26	24	10	04	22	10	15	18
27. Parents dressed me in designer clothes	17	19	17	18	21	25	09	15	13	25	15
28. Parents valued new cars	20	23	19	14	20	21	08	21	13	16	13
29. Parents have prestigious jobs	11	18	17	15	16	07	07	13	08	10	12
30. I often spend money needlessly	12	13	01	02	12	11	13	07	-01	16	14

Item	12	13	14	15	16	17	18	19	20	21	22
31. I often buy things I don't need	17	14	02	05	16	20	15	08	10	22	13
32. I often buy things I rarely use	10	10	06	09	08	07	07	10	04	15	14
33. I buy things I don't need, when I have little money in savings	13	13	02	03	08	10	09	06	03	13	11
34. I spend more money than I should	11	13	02	05	11	13	11	08	08	15	12
35. I am strongly driven to buy things	17	17	09	10	16	20	11	12	12	23	10
36. When in a mall, I am tempted to buy things	19	13	08	11	21	22	11	11	12	26	12
37. I often feel urges to go shopping	16	16	09	13	17	16	10	15	10	25	11
38. I usually have enough money to pay expenses*	04	-02	-01	-02	02	03	00	06	07	03	04
39. My savings is less than 3 months salary	-09	-05	-05	-15	-12	-08	-04	-03	-08	-05	-05
40. My bill payments are always late	06	01	00	04	-01	01	-02	07	04	00	03
41. I usually have money in both savings and checking*	02	-01	-04	-05	03	04	-02	-06	01	03	03
42. I often shop at outlet stores*	-03	00	-02	-09	05	01	-09	-04	-02	00	00
43. I research prices before an expensive purchase*	03	08	-07	-02	12	14	07	01	01	12	06
44. I budget my expenses*	03	01	-12	-06	04	01	02	-02	-03	06	03
45. I try to find sales*	-03	02	-02	-06	-02	-03	-07	-06	-01	-03	01
46. I shop at discount stores*	05	13	10	03	12	15	05	05	06	13	09
47. I was an above average student*	02	06	-10	-03	05	02	03	-02	00	05	02

Item	12	13	14	15	16	17	18	19	20	21	22
48. I learn easily*	00	07	-08	-07	01	00	-01	00	02	-01	-01
49. I learned more easily than most students*	01	10	-06	-03	05	01	03	-02	-02	06	01
50. I have a good education*	00	06	-03	-01	02	02	-01	02	01	00	05
51. I did well in math*	-01	02	-04	-09	02	02	01	-01	-03	03	00
52. Locus of Control	11	10	00	00	09	12	12	08	08	13	09

Item	23	24	25	26	27	28	29	30	31	32	33
23. Parents shopped in exclusive stores											
24. Parents valued designer clothes	44										
25. Parents valued prestigious schools	32	24									
26. Social status was important to parents	41	36	34								
27. Parents dressed me in designer clothes	52	42	28	25							
28. Parents valued new cars	35	37	18	28	34						
29. Parents have prestigious jobs	29	22	29	32	23	23					
30. I often spend money needlessly	09	06	05	05	08	08	01				
31. I often buy things I don't need	11	07	04	05	13	14	01	44			
32. I often buy things I rarely use	06	04	07	08	04	10	01	40	36		
33. I buy things I don't need when I have little money in savings	10	05	01	02	06	10	00	49	45	32	
34. I spend more money than I should	07	06	03	08	06	09	03	58	38	28	49
35. I am strongly driven to buy things	16	15	08	08	12	16	05	37	38	26	35
36. When in a mall, I am tempted to buy things	14	11	06	06	12	16	02	31	36	26	32
37. I often feel urges to go shopping	18	12	06	08	12	17	02	29	34	21	24
38. I usually have enough money to pay expenses*	-03	-02	-03	-04	-03	-03	-06	22	12	15	24
39. My savings in less than 3 months salary	-12	-08	-09	-09	-10	00	-13	19	12	07	20
40. My bill payments are always late	00	00	01	02	01	-02	-03	20	05	06	17

Item	23	24	25	26	27	28	29	30	31	32	33
41. I usually have money in both savings and checking*	-03	00	-04	-08	-04	-04	-10	18	16	07	19
42. I often shop at outlet stores*	00	00	-04	00	01	02	-03	05	02	00	-01
43. I research prices before and expensive purchase*	03	04	-04	01	07	01	-05	24	22	13	20
44. I budget my expenses*	00	-02	-05	-04	03	-01	-04	27	18	14	25
45. I try to find sales*	01	06	03	03	04	01	01	13	08	06	09
46. I shop at discount stores*	14	14	07	07	14	10	06	05	06	03	07
47. I was an above average student*	-01	-04	-07	00	-02	-01	-02	13	10	06	11
48. I learn easily*	-05	-05	-09	-02	-06	-04	-06	09	09	05	06
49. I learned more easily than most students*	02	-02	-08	02	-02	-04	-03	10	11	09	11
50. I have a good education*	01	01	-09	00	-01	02	-06	09	03	08	07
51. I did well in math*	-01	-04	-04	-03	00	-03	-02	06	04	03	09
52. Locus of Control	08	04	01	01	08	04	00	25	20	15	18

Item	34	35	36	37	38	39	40	41	42	43	44
34. I spend more money than I should	-										
35. I am strongly driven to buy things	34	-									
36. When in a mall, I am tempted to buy things	31	46	-								
37. I often feel urges to go shopping	29	50	45	-							
38. I usually have enough money to pay expenses*	32	08	11	08	-						
39. My savings is less than 3 months salary	19	06	02	05	15	-					
40. My bill payments are always late	27	10	06	08	40	19	-				
41. I usually have money in both savings and checking	22	05	10	04	35	14	19	-			
42. I often shop at outlet stores*	03	00	01	-06	02	-02	-04	13	-		
43. I research prices before an expensive purchase*	22	15	19	09	12	07	09	19	14	-	
44. I budget my expenses*	28	16	15	08	17	04	11	26	13	25	21
45. I try to find sales*	12	05	03	-06	04	00	03	13	20	18	09
46. I shop at discount stores*	05	11	11	-04	-04	-06	-05	03	24	17	
47. I was an above average student*	08	05	05	02	18	-01	08	14	06	11	14
48. I learn easily*	08	12	06	11	15	-02	-01	12	07	07	10
49. I learned more easily than most students*	09	12	08	08	12	-05	01	10	09	13	11
50. I have a good education*	08	03	05	01	14	06	05	09	04	04	08
51. I did well in math*	04	06	08	02	10	00	07	07	04	10	10
52. Locus of Control	21	14	15	10	13	00	07	15	05	18	19

Item	45	46	47	48	49	50	51	52
45. I try to find sales*	-							
46. I shop at discount stores*	25	-						
47. I was an above average student*	06	01	-					
48. I learn easily*	07	-07	32	-				
49. I learned more easily than most students*	04	01	52	51	-			
50. I have a good education*	05	00	30	23	28	-		
51. I did well in math*	07	01	37	28	36	19	-	
52. Locus of Control	09	09	15	18	16	10	09	

Note. N=1745. Low scores indicate agreement with statement. High locus of control score indicates internal locus.
*Item was reverse scored.

Table 1
Summary of model fit indices.

	Model 1	Model 2	Model 3	Model 4	Mcdel 5
χ^2 [a]	5036.45	5258.38	5478.41	5634.68	7975.02
df	1239	1262	1263	1265	1275
GFI	.89	.88	.88	.87	.82
AGFI	.88	.87	.87	.86	.81
RMSR	.04	.04	.05	.06	.10
NFI	.78	.77	.76	.76	.66
NNFI	.81	.81	.80	.79	.68
CFI	.83	.82	.81	.80	.69

[a] All chi-square values are significant at the .0001 level.

Table 2
Factor loadings for first order factors for Model 1.

		Factor loadings								Variable Uniqueness
	Item	VF	VS	F	P	CS	M	T	ED	
1.	I wear stylish rather than comfortable clothes	.65								.73
2.	Important to buy designer clothes	.67								66
3.	I spend more than others on hair care	.38								.88
4.	I would join health club to improve appearance	.28								.87
5.	I check my appearance often	.45								.87
6.	I prefer to shop in malls and prestigious stores	.60								.80
7.	Important to have fashionable hairstyle	.62								.85
8.	Important to be best dressed person at parties	.62								.70
9.	I blow my own horn		.37							.78
10.	Important to be seen with important people		.73							.89
11.	Occupation of friends is important		.40							.82
12.	I frequently name-drop		.57							.78
13.	Social status of friends is important		.61							.85
14.	Important to work in prestigious organization		.46							.91
15.	I attend parties to meet important people		.45							.76

		Factor loadings								Variable
	Item	VF	VS	F	P	CS	M	T	ED	Uniqueness
16.	Friends value social status			.69						.74
17.	Friends value designer clothes			.75						.92
18.	Friends spend a lot on personal items			.48						.96
19.	Friends eat in fashionable restaurants			.50						.89
20.	Friends value foreign cars			.50						.80
21.	Friends shop in trendy stores			.61						.79
22.	Friends are vain			.53						.78
23.	Parents shopped in exclusive stores				.71					.93
24.	Parents valued designer clothes				.63					.69
25.	Parents valued prestigious schools				.46					.92
26.	Social status was important to parents				.57					.85
27.	Parents dressed me in designer clothes				.63					.79
28.	Parents valued new cars				.52					.89
29.	Parents have prestigious jobs				.42					.89
30.	I often spend money needlessly					.70				.71
31.	I often buy things I don't need					.63				.77
32.	I often buy thing I rarely use					.48				.88

		Factor loadings									Variable Uniqueness
	Item	VF	VS	F	P	CS	M	T	ED		
33.	I buy things I don't need, when I have little money in savings					.65					.76
34.	I spend more money than I should					.67					.74
35.	I am strongly driven to buy things					.60					.80
36.	When in a mall, I am tempted to buy things					.60					.82
37.	I often feel urges to go shopping					.52					.86
38.	I usually have enough money to pay expenses*						.71				.71
39.	My savings is less than 3 months salary						.28				.96
40.	My bill payments are always late						.51				.86
41.	I usually have money in both savings and checking*						.48				.87
42.	I often shop at outlet stores*							.31			.95
43.	I research prices before an expensive purchase*							.36			.93
44.	I budget my expenses*							.53			.85
45.	I try to find sales*							.49			.87
46.	I shop at discount stores*							.41			.91
47.	I was an above average student*								.65		.75
48.	I learn easily*								.60		.80
49.	I learned more easily than most students*								.78		.63

				Factor loadings						Variable Uniqueness
	Item	VF	VS	F	P	CS	M	T	ED	
50.	I have a good education*								.39	.92
51.	I did well in math*								.49	.87

Note: VF=Vanity via Fashion and Appearance; VS=Vanity via Social Ascendancy; F=Vanity of Friends; F=Vanity of Parents; CS=Compulsive Spending; M=Money Management; T=Thrifty Shopping; ED=Scholastic Performance. *Item was reverse scored.

Table 3

Correlations between first order factors from Model 1.

	1	2	3	4	5	6	7	8	9
1. Vanity of Friends.	-								
2. Vanity of Parents	.45	-							
3. Vanity via Fashion and Appearance	.64	.58	-						
4. Vanity via Social Ascendancy	.58	.62	.72	-					
5. Compulsive Spending	.34	.22	.50	.37	-				
6. Money Management	.04	-.09	.05	.02	.44	-			
7. Thrifty Spending	.15	.47	.33	.09	.48	.32	-		
8. Scholastic Performance	.04	-.06	-.01	.00	.20	.25	.26	-	
9. Locus of Control	.17	.07	.15	.12	.29	.19	.31	.22	-

Table 4

Correlations and internal consistency for scale scores and credit risk

	1	2	3	4	5	6	7	8	9	10	11	12
1. Vanity of Friends	77											
2. Vanity of Parents	36	77										
3. Vanity via Fashion	46	40	76									
4. Vanity via Soc. Ascend.	44	47	51	70								
5. Compulsive Spending	32	16	44	30	82							
6. Money Management	04	-10	03	-02	29	54						
7. Thrifty Shopping	08	03	19	04	27	23	52					
8. School Performance	06	-08	-02	-01	13	11	15	72				
9. Locus of Control	15	06	13	11	24	14	21	19	72			
10. Vanity Total	74	73	79	78	41	-01	12	-02	15	88		
11. Spending Total	22	05	33	17	78	71	64	18	28	26	75	
12. Credit Risk	-03	02	-04	00	-05	-26	08	04	06	-02	-12	-

Note: High scores represent less vanity or better spending habits. High Locus of Control indicates internal locus. Internal consistency reliability for each scale is reported on the diagonal. N=989. $r \geq .07$ is significant at the .05 level.

Table 5
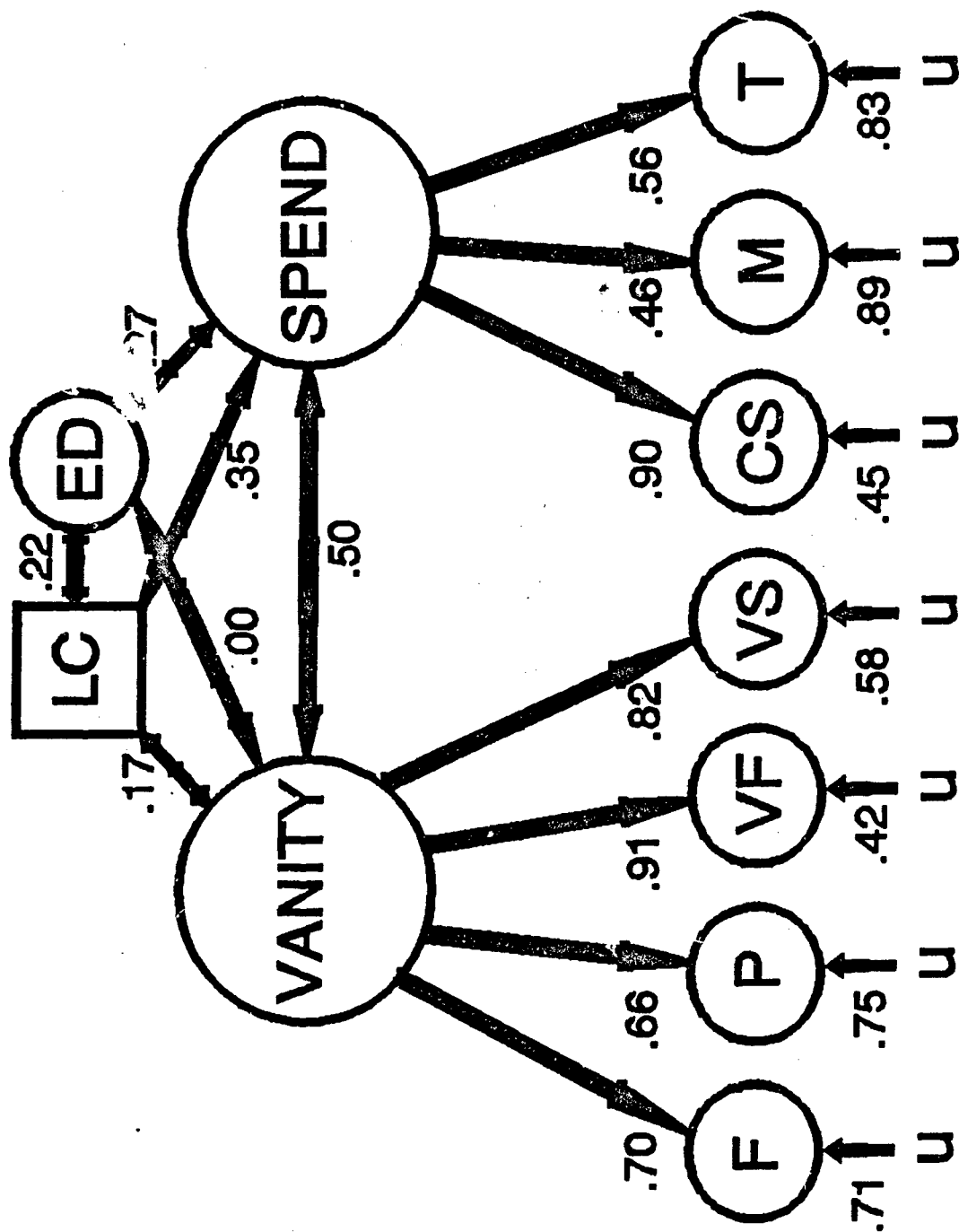Sex differences on vanity and spending scales and credit risk.

		Male	Female	t
Vanity of Friends	mean	18.90	18.75	0.72
	sd	3.48	4.16	
	N	1150	388	
Vanity of Parents	mean	20.64	21.24	-2.93**
	sd	3.44	4.05	
	N	1550	389	
Vanity via Fashion and Appearance	mean	22.20	21.84	1.61
	sd	3.92	4.08	
	N	1551	378	
Vanity via Social Ascendancy	mean	22.19	22.83	-3.47***
	sd	3.27	3.26	
	N	1552	387	
Vanity Total	mean	83.90	84.74	-1.34
	sd	10.86	11.85	
	N	1545	386	
Compulsive Spending	mean	22.87	21.75	5.46***
	sd	3.48	3.85	
	N	1509	378	
Money Management	mean	1.80	1.75	0.35
	sd	2.71	2.91	
	N	1552	389	
Thrifty Spending	mean	-12.44	-11.43	-3.69***
	sd	2.44	2.43	
	N	1552	389	
Spending Total	mean	12.21	11.58	1.75
	sd	6.20	6.54	
	N	1507	378	
Scholastic Performance	mean	-11.61	-11.92	1.76
	sd	2.99	3.39	
	N	1553	389	
Locus of Control	mean	4.35	4.06	1.33
	sd	3.90	3.58	
	N	1553	389	
Credit Risk	mean	570.88	601.51	-2.03*
	sd	195.59	206.40	
	N	812	218	

Note. High scores represent less vanity or better spending habits. High Locus of Control indicates internal locus. *$p<.05$, **$p<.01$, ***$p<.001$.

Figure Caption

Figure 1. Second order factor structure for the two factor model (Model 2).

Note: Small circles are first order factors and large circles are second order factors. The box indicates a measured variable. F = Vanity of Friends; P = Vanity of Parents; VF = Vanity via Fashion and Appearance; VS = Vanity via Social Ascendancy; CS = Compulsive and Irresponsible Spending; M = Money and Credit Management; T = Thrifty Shopping; ED = Scholastic Performance; LC = Locus of Control; u = uniqueness of each factor.

END

FILMED

DATE: 4-93

DTIC